

INSTRUCTION MANUAL

CONTENTS

| | |
|---|----------------|
| PARTS NAMES AND PRODUCT COMPONENTS | <i>page 5</i> |
| <hr/> | |
| BASIC OPERATION OF THE MONITOR | <i>page 6</i> |
| INSTALLING BATTERY | <i>page 6</i> |
| ATTACHING THE MONITOR TO THE GLOVE | <i>page 6</i> |
| FIXING THE MONITOR ON YOUR HAND | <i>page 6</i> |
| MEASURING YOUR HEART RATE | <i>page 7</i> |
| <hr/> | |
| SETTING UP THE MONITOR | <i>page 8</i> |
| SETTING THE CLOCK | <i>page 8</i> |
| SETTING THE ALARM | <i>page 8</i> |
| ENTERING YOUR PERSONAL PROFILE | <i>page 9</i> |
| SETTING YOUR TARGET HEART RATE ZONE | <i>page 9</i> |
| OUT OF ZONE ALARM | <i>page 10</i> |
| <hr/> | |
| ADDITIONAL FUNCTIONS | <i>page 11</i> |
| STOPWATCH | <i>page 11</i> |
| CALCULATION OF CALORIES BURNED | <i>page 12</i> |
| RECOVERY CHECK | <i>page 13</i> |
| BACKLIGHT | <i>page 13</i> |
| <hr/> | |
| PC INTERFACE FUNCTIONS | <i>page 14</i> |
| <hr/> | |
| TROUBLESHOOTING | <i>page 15</i> |
| <hr/> | |
| CARE AND HANDLING | <i>page 16</i> |
| <hr/> | |
| SPECIFICATIONS | <i>page 17</i> |

Thank you for purchasing Mark of Fitness' MF-180 Exercise Monitor. We are confident you'll find it to be a valuable addition to your exercise program. It's easy-to-use, comfortable, and can help you avoid the fatigue that often derails exercise programs.

Whether you are exercising to lose weight or simply to be in better condition, the MF-180 Exercise Monitor can help you succeed. It helps you to control the intensity of your exercise, and through that control, avoid the problems that often occur from exercising at the wrong level.

We urge you to wear your monitor to learn a little more about your body over the next few days. One of the most valuable things you can know is your resting heart rate. To find it, you can put the monitor on as soon as you awaken, while still lying in bed. Take your reading each morning for several days, and then average them to get an accurate value. If you awaken feeling fatigued, put the monitor on and check your reading. If your reading is about 10 beats per minute higher than usual, it's likely a sign of a problem (too intense exercise, too much exercise, or you may be getting sick). As you wear the monitor, be careful not to entangle the cord to the sensor, if you are doing something that requires gripping, or if you are driving, or if good hygiene dictates, remove the monitor to prevent it from being damaged or you from being injured.

We're confident you'll find the MF-180 to be easy-to-wear and a valuable addition to your exercise program. Please feel free to contact us with questions, comments or success stories; either through the MF-180 website www.markoffitness.com/mf180world.htm or by telephone or mail.

Sincerely,

The Staff at Mark of Fitness

Mark of Fitness One-Year Warranty

-U.S. Customers Only-

Mark of Fitness, Inc. warrants this product to be free of defects in material and workmanship for a period of one year; except the glove, which has a 60-day warranty.

Should any defects be discovered within one year of purchase, Mark of Fitness, Inc. will repair or replace the defective product or parts at no charge for labor or materials provided:

1. Said unit is returned postage paid to the factory for servicing, marked Attn: Service Department.
2. Proof of date of purchase is included with the product.
3. A letter accompanies the product and indicates the complaint or defect to be remedied.
4. A check or money order in the amount of \$7.95 is included to cover the shipping and handling costs.

In the event the defect may be remedied without returning the unit, contact the firm by phone, mail or e-mail first and every effort will be made to supply the replacement parts quickly and at no charge.

This warranty does not apply to any unit which has been tampered with, abused, accidentally damaged, or damaged by improper packing or mishandling in transit to or from the manufacturer.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Mark of Fitness, Inc.

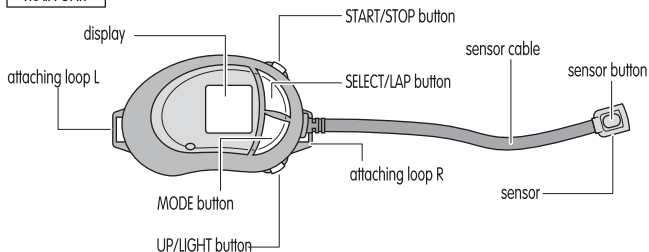
621 Shrewsbury Ave., Shrewsbury, NJ 07702

Phone (732) 842-7200, Fax (732) 842-0558, Customer Service (888) 343-1558

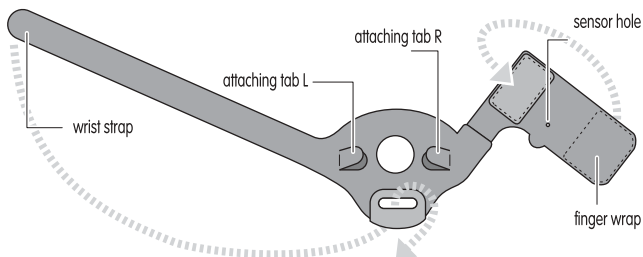
e-mail: custserv@markfit.com website: www.markoffitness.com

PARTS NAMES AND PRODUCT COMPONENTS

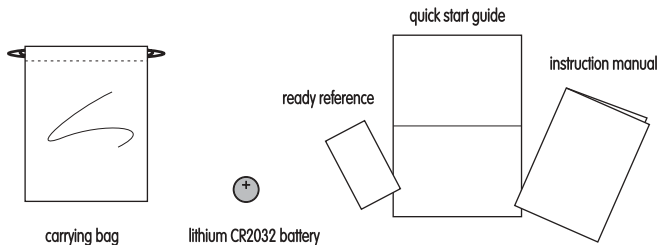
MAIN UNIT



GLOVE



OTHER INCLUDED PARTS



BASIC OPERATION OF THE MONITOR

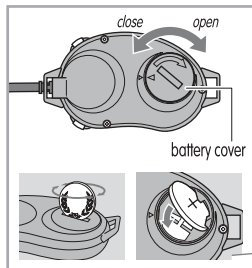
INSTALLING BATTERY

Open the battery cover by turning it with a coin in the direction of the arrow until the two triangles align.

Remove the battery cover and battery by tapping the monitor against the palm of your hand.

Replace with a CR2032 battery with the positive (+) side up.

Carefully reinstall the battery cover by aligning the triangles on the cover and body, angling the triangle in first, then allowing the cover to drop into place. Secure by turning opposite to the direction of the arrow until motion stops.



To maintain water resistance, be careful not to dislodge the rubber "O"-ring from the battery compartment. Do not allow dirt or debris to remain on the "O"-ring. Do not force the battery cover into position, small tabs that maintain the seal may break off.

 Replace the battery when the battery replacement mark appears.

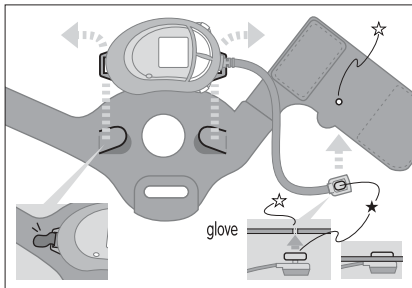
ATTACHING THE MONITOR TO THE GLOVE

Thread the left and right attaching tabs through the attaching loops on the sides of the monitor, making sure the sensor wire points towards the finger wrap.

Press the hook and loop fasteners together firmly to make sure the monitor will not fall off during use.

Put the sensor button (marked with ★ in the figure) into the sensor hole (marked with ☆).

The sensor button should appear on the surface of the band.



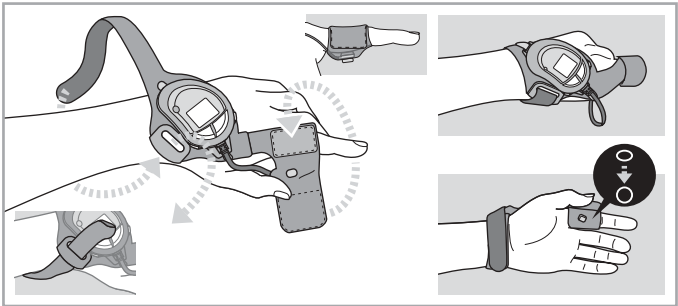
PUTTING THE MONITOR ON YOUR HAND

Place the monitor on the back of your left hand.

Wrap the base of the index finger with the finger wrap portion of the glove and secure with the hook and loop fastener. The sensor should be flat against the fleshy part of the finger, just above the crease between the palm and the base of the finger.

Tension on the finger wrap should be adjusted to make the printed oval on the wrap into a circle.

The wrist strap should be wrapped around the wrist, threaded through the grommet, and secured with the hook and loop fastener. The wrist strap need only be tight enough to keep the monitor from flopping around.



MEASURING YOUR HEART RATE



Set the monitor to HEART RATE MODE with MODE button.

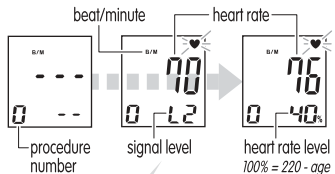
Press START/STOP button.

Monitor is turned on and heart mark flashes.

Do not begin exercise until heart rate level (percentage) is displayed.

Press START/STOP button to end measurement.

Flashing heart mark disappears and monitor is turned off. *Measurement cannot be ended unless the procedure number is "0" in HEART RATE MODE.*



- L0 no signal
- L1 weak signal
- L2 normal signal
- L3 strong signal
- EE error due to hand movement
- E- no signal for over 32 seconds

Loosen the finger wrap and stop measurement if you feel irritation or pain or if your finger becomes numb.

Measurement continues when the mode is changed.



* Heart rate (beats/minute) is displayed here. The display alternates between heart rate and seconds when timing exceeds one-hour.

heart rate*
beat/minute

Measurement is stopped when pulse rate is not detected ("EE" or "E-") or when the band is removed. Measurement also can be interrupted by movement of hand.

Press START/STOP button again and start over the measurement.

SETTING UP THE MONITOR

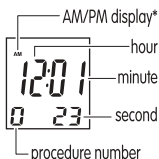
**Settings return to their default value after battery replacement.*

SETTING THE CLOCK



Turn off the monitor if it is on.

Use the MODE button to advance to clock mode.



Press and hold the SELECT/LAP button until seconds start to flash.
Press the UP/LIGHT button to adjust the seconds. (Procedure 0)

Press the SELECT/LAP button and minutes will start to flash.
Press the UP/LIGHT button to adjust the minutes. (Procedure 1)

Press the SELECT/LAP button and hours will start to flash.
Press the UP/LIGHT button to adjust the hours. (Procedure 2)

Press the SELECT/LAP button and the entire display will start to flash – this is the 12/24 hour display selection mode.

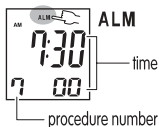
Press the UP/LIGHT button to change your selection – AM or PM will disappear in 24 hour mode (military time). (Procedure 3)

Press MODE button to return to main clock display (or press SELECT/LAP to enter alarm setting mode).

Hold down UP/LIGHT button to fast-forward the adjusting number.

**disappears when the clock is set to 24 hour mode.*

SETTING THE ALARM



Turn off the monitor if it is on.

Use the MODE button to advance to clock mode.

Press and hold the SELECT/LAP button until seconds start to flash.

Press the SELECT/LAP button repeatedly to advance to alarm setting mode. (Procedure 4)

The seconds display will be flashing.

Press the UP/LIGHT button to adjust the seconds. (Procedure 4)

Press the SELECT/LAP button and minutes will start to flash.

Press the UP/LIGHT button to adjust the minutes. (Procedure 5)

Press the SELECT/LAP button and hours will start to flash.

Press the UP/LIGHT button to adjust the hours. (Procedure 6)

Press the SELECT/LAP button and the entire display will start to flash – this is the alarm on/off selection mode.

Press the UP/LIGHT button to change your selection – "ALM" will appear when on and disappear when off. (Procedure 7)

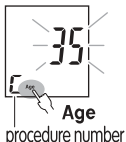
Press MODE button to return to main clock display.

Press any button to stop the alarm.

ENTERING YOUR PERSONAL PROFILE



This information is used by the monitor to calculate your maximum heart rate (using $HR_{max} = 220 - \text{Age}$ formula) and to determine calories burned during exercise. We recommend setting this before setting your target zone (upper and lower heart rate limits) because this will allow you to see % of HR_{max} at the bottom of the display while setting.



Turn off the monitor if it is on.

Use the MODE button to advance to heart rate mode.

Press and hold the SELECT/LAP button until the upper limit is displayed and starts to flash. (Procedure A)

Press the SELECT/LAP button repeatedly to advance to age setting mode. (Procedure C)
The age display will be flashing and the word "Age" will be displayed in small letters.

Press the UP/LIGHT button to adjust the age. (Procedure C)

Press the SELECT/LAP button and the weight display will be flashing and "Weight" will be displayed in small letters.

Press the UP/LIGHT button to adjust the weight. (Procedure d)



Press the SELECT/LAP button and the gender display will be flashing and "Sex" will be displayed in small letters.

Press the UP/LIGHT button to adjust the gender. (Procedure E)

Note: 00=female, 11=male

Press MODE button to return to main heart rate display.



SETTING YOUR TARGET HEART RATE ZONE



From the heart rate monitor mode, press and hold the SELECT/LAP button to advance to procedure A.

A large "H" will appear on the left side of the display to indicate that this is the High (Upper) limit of the target zone.

Press the UP/LIGHT button to advance the upper limit (holding the UP/LIGHT button will rapidly advance the limit by 10's).

Note: If a profile (age) has been entered, the % of maximum heart rate (using $220 - \text{age}$) formula will be displayed at the lower right. If age has not been entered, the % is calculated from default setting (35).



upper limit



lower limit

To set the lower limit, press the SELECT/LAP button to advance to procedure B.

A large "L" will appear on the left side of the display to indicate that this is the Lower limit of the target zone.

Setting works the same as setting the upper limit (above).

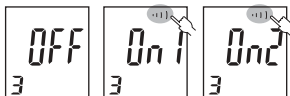
OUT OF ZONE ALARM



This function generates an audible tone when your heart rate exceeds the stored upper limit or drops below the stored lower limit. It may be set to 3 levels; OFF, On1 (soft) or On2 (loud).

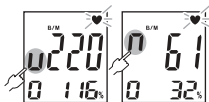
To activate this function, from Heart Rate Mode, use the SELECT/LAP button to move to procedure 3.

Use the UP/LIGHT button to select the desired setting.



Unless set to "off", the out of zone alarm sounds when your pulse rate exceeds the upper limit or drops below the lower limit of the target zone.

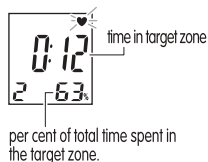
You may also visually check your heart rate status by looking at the display. Indicators appear when you are out of the target zone.



The MF-180 records the length of time your pulse rate is in the target zone, that is, between the stored upper and lower heart rate limits.

To view the time in target zone, go to heart rate mode, then press SELECT/LAP button to move to procedure number "2".

Both time in zone and % of total time spent in the target zone are displayed. The time in target zone automatically resets when measurement is restarted.



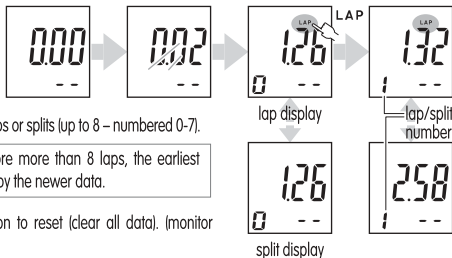
ADDITIONAL FUNCTIONS

STOPWATCH



From stopwatch mode,

Use the START/STOP button to begin or end timing.



Use the SELECT/LAP button to record laps or splits (up to 8 – numbered 0-7).

Note: If an attempt is made to store more than 8 laps, the earliest data (lap 0, then 1, etc.) is replaced by the newer data.

Press and hold the SELECT/LAP button to reset (clear all data). (monitor must be turned off)

Use the UP/LIGHT button to select either lap ("LAP" displayed) or split (nothing displayed) modes.

You may find it useful to press the lap just before turning off the stopwatch at the end of an event. This will allow you to view lap data for the final lap (or mile or km) of an event.

What's the difference between lap time and split time?

A split time is the total time elapsed until the SELECT/LAP button is pressed, while a lap time is the time elapsed since the last press of the SELECT/LAP button. Many people prefer lap times because they allow easy comparison of times for individual laps (or miles or km).

Example: Let's look at a runner running on a typical track. He presses the START/STOP button as he begins. The watch will display the elapsed time until the SELECT/LAP button is pressed. Let's say he completes the first lap 92 seconds into the run, the display will freeze at 1:32 because the lap time and split time will be the same at the completion of the first lap (or mile or km). After 10 seconds, the display returns to elapsed time. When the runner completes the second lap, let's say 91 seconds later, the SELECT/LAP button is pressed again. Depending on the mode (lap or split), the stopwatch will display either 3:03 (split time) or 1:31 (lap time) for ten seconds, then return to total elapsed time.

Retrieval of Lap/Split Data

From stopwatch mode,

(Note: the stopwatch must be stopped to retrieve data.)

Press the SELECT/LAP button to begin retrieval (memory #0)

Press the SELECT/LAP button to advance to the next memory (1-7)

Press the MODE button to exit Lap/Split retrieval

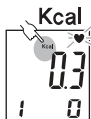
Note: It is possible to retrieve the same set of data in either lap or split modes by switching between the two modes.

CALCULATION OF CALORIES BURNED



Calories burned during exercise are automatically calculated using your personal profile (weight, sex and age) and your heart rate. [Note: Heart rate must exceed 90 bpm for this calculation to occur.]

To view the calories burned, go to the heart rate monitor mode and press the SELECT/LAP button. The calories burned will be displayed. [Procedure Sequence "1"]



The calories burned display is a cumulative calculation, calories will keep being added to the previous value until reset. (Stopping monitoring of heart rate pauses, but does not reset, this reading.)

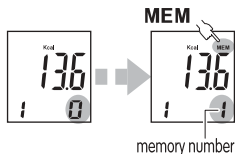
To reset the calories burned, go to heart rate mode, turn the monitor on, then press the SELECT/LAP button, then press the UP/LIGHT button. The calories burned data will reset to zero. THIS MUST BE DONE WHILE MONITORING PULSE.

Press the MODE button to return to the heart rate main screen.

Storage of Calories Burned Data

While in the heart rate monitor mode with the monitor turned off, press the SELECT/LAP button to advance to procedure 1. Memory number 0 appears on the lower right.

Press and hold the START/STOP to store calorie data. "MEM" will be displayed and memory number 1 will appear at the lower right.



Retrieval of Calories Burned Data

From the heart rate monitor mode with the monitor turned off, press the SELECT/LAP button to advance to procedure 1.

Memory number 0 appears on the lower right and current information is displayed.

Press the UP/LIGHT to advance to memory numbers 1-7, "MEM" and stored data are displayed.

Deleting Stored Calorie Data

To delete a single stored set of calorie data (among memory numbers 1-7); display the reading to be erased.

Press and hold the START/STOP button until "---" replaces the reading shown.



Note: This is the same process used to store calorie data, but done while showing memorized information (1-7) rather than the current information (0). Please be cautious or you may erase information you wish to keep.

RECOVERY CHECK



This function lets you gauge your conditioning level. In general, the faster your heart rate returns to normal after a workout, the healthier your cardiovascular system is. This function records your pulse rate at 8 points (designated 0-7), as you start the test and about every half-minute for the first 2 minutes, then each minute up to 5 minutes. [Actual times: Start, 32 sec, 60 sec (1 min), 92 sec, 120 sec (2 min), 180 sec (3 min), 240 sec (4 min), 300 sec (5 min)] In order to gain a reasonably accurate understanding of your recovery, we suggest that you perform this test just a few times each month, take the readings on successive days, or reasonably close to it. Begin measurement immediately when you complete a workout and try to do it from about the same beginning heart rate and following workouts of roughly similar length and intensity (your recovery will differ from a very hard workout relative to an easy one, similarly with a very long one).

To use this function, your heart rate must be being monitored.

Then, from Heart Rate Mode,

use the SELECT/LAP button to move to procedure 4.

Press the Start/Stop button to begin.

Recovery check stops after 5 minutes unless stopped before by pressing the START/STOP button.



To retrieve stored recovery rate data, monitoring must be stopped.

Use the SELECT/LAP button to move to procedure 4,

Then, use the UP/LIGHT button to step through the stored readings.



Note: The reading number appears at the lower right, the procedure number (4) continues to be displayed at the lower left.

The memory is automatically cleared when a new set of readings is begun or the battery is removed.

BACKLIGHT

The backlight allows the MF-180 to be used in low-light conditions.

To turn on the back light, press and hold the UP/LIGHT button.

Turning on the backlight when in calorie display in the heart rate mode and the monitor is sensing will clear the current calories burned count. It may be helpful to use move to stopwatch mode if exercising in a dark environment." (This is based on the calorie count not resetting when pressed in stopwatch mode.)

PC INTERFACE FUNCTIONS

Your MF-180 Exercise Monitor can become even more powerful and valuable by adding the optional PC interface kit when it becomes available. The interface kit will allow you to record up to 226 heart rate measurements during your exercise and review them through your computer.

To Set the Recording Interval (requires optional interface kit for retrieval)

This function allows you to tailor the frequency of recording data to fit the duration of your exercise. The MF-180 monitor will record for periods from 15 minutes at a 4 second interval to 3 hours and 45 minutes at a 60 second interval.

The monitor must be off in order to set the recording interval.

While in heart rate mode, press and hold the SELECT/LAP button until the procedure "A" is shown.

Then, press the SELECT/LAP button to advance to procedure "F".

Use the UP/LIGHT button to choose the recording interval.



Note: The recording interval is shown at the lower right and the maximum time of recording (for that interval) is shown above it.

Press the MODE button to finish setting and return to the heart rate display.

Recording Pulse Rate (requires optional interface kit for retrieval)

To use this function, your heart rate must be being monitored.

Then, from Heart Rate Mode,

use the SELECT/LAP button to move to procedure 5.

Press the START/STOP button to begin. The display will change from "Off" to "On."

Data recording continues until all 226 memories are filled or measurement is stopped by turning off the data recording or turning off the monitor.

Data is stored until next reading is begun or the battery is removed.



Note: If a new reading is started before data is downloaded, the previous data is lost.

Confirming Data is Being Stored

You can confirm that data is being stored and how much has been stored. To do this, while in heart rate mode, with the monitor running and data being stored, use the SELECT/LAP button to advance to procedure 6. The large number will display the number of pieces of stored data; the lower right number is the recording interval. (The large number should advance every recording interval.)



TROUBLESHOOTING

| SYMPTOM | CAUSE | REMEDY |
|--|---|---|
| Cannot measure. | The sensor is not properly attached. | Attach the sensor properly. |
| | Noise was detected at the beginning of measurement. | Stay calm at the beginning of measurement while signal level is displayed and wait until pulse rate level (percentage) is displayed. |
| | Your hand is cold. <i>Blood vessels shrink in cold temperatures and heart rate becomes difficult to detect.</i> | Warm your hand. |
| | When the circulation of blood is poor, it is difficult for pulse rate signal to be detected. | Bend and stretch your finger so that blood circulates well. It will not influence pulse rate measurement unless it is continued more than 15 seconds. |
| | The pulse rate signal is weak. <i>The signal could become weak when hands are kept down during walking regardless of whether arms are swung or not. Though it depends on individual how long it takes for pulse signal to be weak, it can happen more easily when the individual is tired.</i> | Wrap the band tighter so that the signal can be detected. |
| | The sensor is not clean. | Clean the sensor with a soft cloth. |
| The reading seems wrong. | This instrument is designed for use on jogging and walking, and therefore it may show incorrect value when movement of hands is excessive, i.e., during gymnastic exercise, aerobics and such. | Stop exercise and hold your hand still for while and the value should return to normal. |
| Nothing is displayed. | Battery is exhausted. | Replace the battery. |
| Display returns to clock when starting a measurement. | Battery is weak. | Replace the battery. |
| Can not move to a setting display. | Settings, except buzzer, can not be changed while measurement is in progress. | End ongoing measurement first. |
| Recorded data is erased or over-written. Recorded data does not seem right. | Recorded data is erased when battery is removed. Also, <ul style="list-style-type: none"> - LAP and SPL records are cleared when stopwatch is reset. - Calorie consumption is added to the previous value unless it is cleared even when measurement is started over. - Counting of time in target zone starts over as measurement is stopped and started over. - Pulse rate recovery records are reset as the next recording is started. | Usage of buttons and rules for recorded data to be reset vary depending on modes and stages of operation. Carefully review the instruction. |

CARE AND HANDLING

The MF-180 has limited water resistance. Do not immerse the monitor, nor expose to excessive perspiration or to heavy rain or to rain for an extended period of time.

Do not drop or strike the unit. Do not stretch or twist the sensor cable. The sensor hole can be damaged by forcefully pulling the sensor out of it. Carefully remove the sensor from the hole. The finger wrap should not be folded too tightly.

Do not store the monitor in places where it is exposed to direct sunlight, extreme temperature variations and humidity. Remove the battery when the monitor is to be stored for an extended period of time. Keep the battery out of reach of children.

Do not disassemble or modify the monitor.

Clean the monitor with soft cloth. Do not use gasoline, paint thinner, or other strong solvents. The glove can be machine-washed. Remove the monitor from the glove when machine-washing the glove. If machine washing, we recommend washing the glove in a mesh bag to minimize snagging.

Since neither the monitor nor battery is household waste, follow your local recycling rules and dispose of them at appropriate collection sites.

SPECIFICATIONS

Model : MF-180

| | |
|--|--|
| Pulse rate measurement | Settings |
| Measuring principle : green light photoelectric method | Clock : AM/PM display or 24-hour-display |
| Supported conditions : under activities no harder than distance running | Alarm clock : Single setting |
| Measurement range : 30 ~ 238 (beat/minute) | Pulse rate borderline |
| Accuracy : +/- 3 % of reading | upper limit H : set lower limit ~ 200 (beat/minute) |
| Calorie calculation range : 0 ~ 9999 kcal (by 0.1 kcal below 1000 kcal, by 1 kcal above 1000 kcal) | lower limit L : 30 (beat/minute) ~ set upper limit |
| Calories burned data storage : maximum of 7 sets | Buzzer : On1, On2 or OFF |
| Recovery check : records of pulse rate at 8 points (0, 32, 60, 92 seconds, 2, 3, 4, 5 minutes past) | Personal profile age : 10 ~ 90 |
| Length of pulse rate recording time : 15, 30, 60, 120 or 225 minutes corresponding to the set recording interval (226 data at maximum) | weight : 44 ~ 488 lb / 20 ~ 244 kg (unit, lb or kg, set at factory) |
| Stop Watch | sex : female (♀) or male (♂) |
| Maximum length of time : 23 hours 59 minutes and 59 seconds | Pulse rate recording interval : at 4, 8, 16, 32 or 60 seconds |
| LAP/SPL time recordings : up to 8 sets | Back light : EL (Electro-Luminescent) |
| | Power source : 1 Lithium CR2032 |
| | Size : approx. 2.4 x 1.8 x 0.5 inches (65 x 45 x 12 mm) |
| | Weight : approx. 1 ounce (33g) |
| | PC communication facility : RS232C : 19.2 kbps (data output only) |
| | PC communication interface : USB interface (not included in the product package) |

Specifications are subject to change without notice due to improvement in performance.

